

Abstract

A hydrophilization agent free of chromium can impart to a heat exchanger made of aluminum, improved corrosion resistance and hydrophilic property lasting for long period of time. The hydprphilization agent contains:

- 5 (A) a hydrophilic polymer having at least one non-ionic functional group selected from the group consisting of a primary amide group, a secondary amide group, a tertiary amide group, a hydroxyl group and a polyoxyalkylene group;
- 10 (B) a hydrophilic polymer having at least one ionic functional group selected from the group consisting of a sulfonic acid group, a phosphonic acid group, a carboxyl group, a primary amino group, a secondary amino group, a tertiary amino group and a quaternary ammonium group;
- 15 (C) a vanadium compound; and,
- (D) a compound having at least one element selected from the group consisting of Zr, Ti, Si.